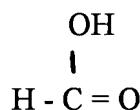
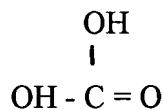


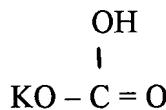
Applicant respectfully submits that support for the Markush grouping of sodium carbonate, potassium carbonate, sodium bicarbonate and potassium carbonate is found in the chemistry of hydroxyformate salts. The Examiner has already agreed that the originally filed specification has support for hydroxyformate salts. See previously allowed claims 43, 49, 54 and 79 of the '377 application. Formic acid has the chemical structure of:



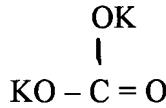
Further, hydroxyformic acid has the structure of:



Another name for hydroxyformic acid is carbonic acid. See, Hackh's Chemical Dictionary, 4th ed., 1969, p. 133 (copy attached hereto). The potassium salts of carbonic or formic acid are potassium bicarbonate of the structure:



and potassium carbonate of the structure:



The sodium salts, sodium bicarbonate and sodium carbonate would be formed in like manner.

Accordingly, based on the chemistry of hydroxyformate salts, the originally filed specification clearly has support for the Markush group, sodium

A

carbonate, sodium bicarbonate, potassium carbonate and potassium bicarbonate. Additional support for the carbonates is found in the originally filed specification at page 6, line 11; page 9, line 16 and page 10, lines 1-2.

Applicant also respectfully submits that newly added claims 50-70 are fully supported by the originally filed specification. These claims are similar to those previously allowed in the '377 application, but without the requirement for water, *i.e.*, these claim the deicing and anti-icing agents and methods in dry solid form. Applicant respectfully submits that Claims 50-77 are supported in the originally filed specification at, *inter alia*, page 5, lines 11-14 (deicing and/or anti-icing can be prepared from the pure components); page 6, lines 6-8; and page 12, lines 3-14.

Applicant further respectfully submits that new claims 71-77 are fully supported by the originally filed specification. New claims 71-77 call for the industrial process stream used as part of the deicing/anti-icing agent to comprise low molecular weight sugars, such as maltoses, glucose, sorbitol and mixtures thereof. Support can be found in the originally filed specification at page 8, lines 19-22.

New claims 78-79 are rewrites of previously allowed claims 70 and 75 of the '377 application, except instead of depending from claim 65 of the '377 application, they are written to depend from claim 64 of the '377 application. Applicant respectfully submits that no new matter has been added.

Applicant respectfully requests that the Examiner examine these newly added claims in light of all prior art. Applicant believes that the newly added claims are allowable over the known prior art.



Early and favorable action is earnestly solicited. The Examiner is invited to contact the undersigned to discuss any still outstanding matter.

Respectfully submitted,



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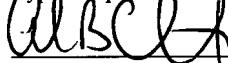
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[*American and British Usage*]

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and Many of the Terms Used in the Related
Sciences of Physics, Astrophysics, Mineralogy,
Pharmacy, Agriculture, Biology,
Medicine, Engineering, etc.*

Based on Recent Chemical Literature

FOURTH EDITION

Completely Revised and Edited by

JULIUS GRANT

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McGRAW-HILL BOOK COMPANY

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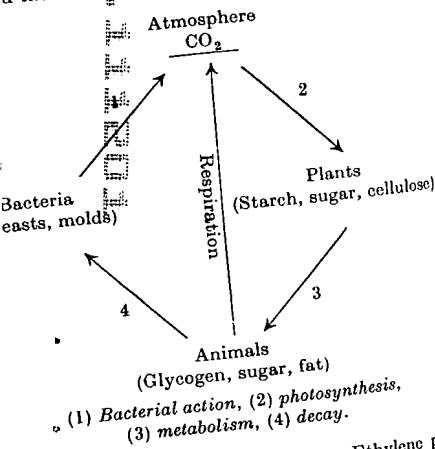
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8 9 10 11 - MAMM - 8 4 3 2 1 0

scale of atomic weights of the elements; 12. Cf. isotopes. C. is an element in vegetable and animal life. Its principal valent c. have been prepared. Its atoms reat for one another than for ions, and give rise to numerous different compounds, owing to its valency of 4. Compounds are: carbides, Mg_2C_2 ; hydrocarbons, C_xH_y ; carbon- x -ides, C_xH_{y-x} ; carbonyls, CO . Cf. C. as minute graphite-like crystallites. The loss on ignition of graphite below point in air. whetlerized- C. containing Cu, to increase its absorbency. Cf. i.e., gas c., charcoal, graphite, diamond, etc.

paratus. An instrument to determine total fuels. c. atom. Tetrahedral c. asymmetric. C. linked to 4 different types of atoms or ls. primary- C. having one bond satisfied quaternary- C. surrounded by 4 c. atoms. tary- C. linked to 2 c. atoms. tertiary- C. linked to 3 c. atoms. c. bisulfide. C. disulfide. ack. Lampblack. c. bond. The nonpolar linkage between 2 c. atoms. It may be ionic, neutral, negative, or positive. c. ze. An alloy for bearings. c. chains. A series of linked c. atoms in a compound. d. Aromatic compounds. open- Aliphatic compounds. c. compounds. See organic compounds. Characteristics: (1) nonpolarity: they do not ionize; their reactions are molecular and have low velocity; (2) polymerism; (3) isomerism and symmetry; (4) combustibility: all c. atoms are oxidized to c. dioxide and other products. c. cycle. e. circulation of c. between a living organism and the surrounding environments:



c. dichloride. $C_2Cl_4 = 165.84$. Ethylene perchlorate. Colorless liquid, b.122. c. dioxide. $CO_2 = 44.01$. Carbonic acid gas, carbonic anhydride. Heavy, colorless, incombustible gas, $d_{air} = 1.53$, m.-65, b.-5, atm-56, soluble in water. Shipped as compressed liquid in steel tanks, and used for carbonating beverages, in refrigerators and fire extinguishers, for destruction of vermin, and as a fertilizer. Cf. Dry Ice. c. disulfide. $CS_2 = 76.12$

Colorless liquid with characteristic odor, b.46.2, slightly soluble in water; a local anesthetic, and a solvent for sulfur, iodine, rubber. c. group. The fourth group of the periodic system, q.v. c. hexachloride. $C_2Cl_6 = 236.77$. C. trichloride, ethyl perchloride, hexachloroethane. Colorless crystals, m.182, b.187, insoluble in water. c. isotopes. C. has 5 isotopes of atomic weights 10-14; C^{12} and C^{13} only are stable. C^{13} is used as a tracer element in nutritional work. c. light. An electric arc light with C. electrodes. c. monosulfide. $CS = 44.04$. Colorless gas, b.-130, very unstable and polymerizes to a red solid. c. monoxide. $CO = 28.01$. Colorless poisonous gas, b.-190, slightly soluble in water, formed during incomplete combustion of C. c. oxysulfide. $COS = 60.07$. Carbonyl sulfide. Colorless gas, b.50.2, slightly soluble in water, explosive in air. c. paper. A tissue paper coated with a mixture of a wax and a black pigment (often c. black); used to make copies of writing. c. print. A photographic process for artistic reproductions of negatives. c. residue. Conradson c. The amount of c. produced from a lubricating oil heated in a closed crucible under standard conditions. c. subnitride. Acetylene dinitrile. c. suboxide. $O:C:C:O = 68.02$. A pungent lacrimatory colorless gas, b.7, decomp. by water to malonic acid. c. subsulfide. $C_2S_2 = 100.0$. Red pungent liquid, m.-0.5, polymerized by heat. c. tetrabromide. $CBr_4 = 331.85$. Tetrabromomethane*. Colorless scales, d.3.42, m.92, insoluble in water. c. tetrachloride. $CCl_4 = 153.84$. Tetrachloromethane*, phenoxin, Pyrex. Colorless liquid, b.76, slightly soluble in water. A local anesthetic, fire extinguisher, nonflammable solvent, cleaning agent, (benzene substitute), and reagent. c. tetrafluoride. $CF_4 = 88.0$. Tetrafluoromethane*, fluoromethane. Colorless gas, b.-126, by-product in the manufacture of aluminum from cryolite. c. tetraiodide. $CI_4 = 519.84$. Tetraiodomethane*. Red crystals, d.₂₀ 4.32, decomp. by heat, insoluble in water. c. trichloride. Hexachloroethane.

carbonaceous. Containing carbon.

carbonado. Bort. A hard, black cutting diamond. carbonatation. Formation of carbonates by carbon dioxide. Cf. carbonation.

carbonate. A salt of the theoretical carbonic acid, containing the radical CO_3^{2-} . Carbonates are readily decomposed by acids. The carbonates of the alkali metals are water-soluble; all others are insoluble. bi- Acid c. A salt containing the radical HCO_3^- . chloro- See chloro-c.

c. minerals. Rock-forming minerals; as, calcite, $CaCO_3$; dolomite, $CaMg(CO_3)_2$; magnesite, $MgCO_3$; siderite, $FeCO_3$.

carbonation. (1) Carbonization. (2) The precipitation of lime by carbon dioxide, e.g., in sugar refining. (3) The saturation of water with carbon dioxide, e.g., in soda-water manufacture.

carbonic. A compound containing tetravalent carbon. Cf. carbonium.

carbonic acid. (1) $HO-COOH$. m-Carbonic acid, hydroxymalic acid. The hypothetical acid of carbon dioxide and water; known only as its salts (carbonates), acid salts (bicarbonates), amides (carbamic acid) and acid chlorides (carbonyl chloride). (2) An old term for carboxylic acid.

ortho- $C(OH)_4$. Exists only as compounds, e.g., esters.

c. acid ester. An organic compound in which the H of c. acid is substituted by a radical. meta- Compounds of the general formula $RO-CO-OR$. ortho- Compounds of the general formula $C(OR)_4$. c. acid hydrate. $CO_2 \cdot 6H_2O$.

carbonic anhydrase. An intracellular enzyme occurring in high concentrations in red-blood corpuscles. It catalyzes the reversal of the reaction $CO_2 + H_2O \rightleftharpoons H_2CO_3$.

carbonic anhydride. Carbonic acid.

carbonic ester. Carbonic acid ester. ethyl- $CO(OEt)_2 = 118.1$. Colorless liquid, b.126. ethylene- $CO(OCH_2CH_3)_2 = 114.1$. Colorless crystals, m.39. methyl- $CO(OMe)_2 = 90.1$. Colorless liquid, b.91. methylethyl- $EtO-CO-OMe = 104.1$. Colorless liquid, b.109. methylpropyl- $PrO-CO-OMe = 118.1$. Colorless liquid, b.131.

carbonic ether. Ethyl carbonate.

carbonide. Carbide.

carboniferous. (1) Containing carbon. (2) Belonging to the coal age; see geologic era.

carbonite. (1) Small charcoal briquettes. (2) A high explosive: nitroglycerin 17-30, sodium nitrite 24-30, flour 37-44%.

carbonitrile. Cyanide, nitrile. The radical $-CN$, indicated by the prefix cyano-, or the suffix -nitrile or -carbonitrile.

carbonium. Describing: (1) a compound with divalent or trivalent carbon, associated with chemical color and reactivity; (2) the ion R_3C^+ .

carbonization. (1) The transformation of organic matter into charcoal. (2) The distillation of coal, as in gas manufacture. high temperature- Heating coal out of air at 1000-1300°C, with the formation of gas, tar, oil, ammonia, and coke. low temperature- Heating coal at 450-700°C, with the formation of gas, petroleum (hydrocarbons from pentane to octane, and amylenes to octene), and coke.

carbonize. To convert to carbon by charring or burning incompletely.

carbonizer. Concentrated aluminum chloride solution; removes cellulose from wool.

carbonoid. A suggested tetragonal structure of carbon, with 4 faces, one for each valency. Cf. benzenoid.

carbonometer. A device to determine the carbonic acid content of blood. Cf. carbometer.

carbonoxysulfide. Carbon oxysulfide.

carbon rheostat. An electrical resistance consisting of a number of carbon plates mounted so that pressure can be placed on them by a screw and their total resistance thus altered.

carbonyl. The radical $=CO$. Cf. carbonyls, thionyl.

c. amidophenol. Oxybenzoazole. c. bromide.

$COBr_2 = 187.83$. Bromophosgene. Poisonous liquid, b.64.5. c. chloride. $COCl_2 = 98.92$. Phosgene. Poisonous gas, b.8.2, decomp. by water; an important chemical intermediate, e.g., in the manufacture of polyurethane resins. World production (1960), 10,000 tons. c. dioxy. The radical $-O-CO-O-$. c. diurea. $(NH_2-CO-NH_2) \cdot CO = 146.06$. Triuret. White crystals, m.232, insoluble in water. Cf. biuret. c. hemoglobin. A highly poisonous combination of carbon monoxide and hemoglobin. c. pyrrole. $CO(C_4H_4N)_2 = 160.1$.